

AMENDMENTS TO THE CLAIMS

Please replace all prior versions and listings of the claims with the following amended listing of claims:

1. (Currently Amended) A method of testing audio performance, the method comprising:

providing a mobile voice-enabled communications device, the device comprising a microprocessor, a microphone connected to the microprocessor, a speaker connected to the microprocessor, an auxiliary input/output device connected to the microprocessor, a memory connected to the microprocessor, and a software module stored in the memory which configures the microprocessor to route signals from the microphone to the auxiliary input/output device;

producing a microphone electric audio test signal on an audio generator external to the mobile voice-enabled communications device;

providing the microphone electric audio test signal of the audio generator as input to an external speaker;

outputting a microphone acoustic audio test signal from the external speaker corresponding to the microphone electric audio test signal;

receiving the microphone acoustic audio test signal output from the external speaker as an input to the microphone of the mobile voice-enabled communications device;

outputting a microphone electric audio output signal from the microphone of the mobile voice-enabled communications device corresponding to the microphone acoustic audio test signal;

directly routing the microphone electric audio output signal from the microphone to the auxiliary input/output device using the microprocessor;

outputting the microphone electric audio output signal from the auxiliary input/output device to an external test system; and

analyzing the microphone electric audio output signal output from the auxiliary input/output device on the external test system.

2. (Previously Presented) The method of claim 1, wherein the microphone electric audio output signal output is compared to the microphone electric audio test signal.

3. (Previously Presented) The method of claim 1, wherein at least one signal characteristic of the microphone electric audio output signal is compared to a predefined test limit.

4. (Previously Presented) The method of claim 1, wherein a plurality of characteristics of the microphone electric audio output signal are compared to predefined test limits for a plurality of audio signal characteristics selected from the group including signal amplitude, frequency response and harmonic distortion.

5. (Previously Presented) The method of claim 1, including connecting the external speaker to the microphone of the mobile voice-enabled communications device with a seal prior to the microphone electric audio test signal being provided to the external speaker.

6. (Previously Presented) The method of claim 21, wherein the electrical connector is a headset plug through which the microphone electric audio output signal is output.

7. (Previously Presented) The method of claim 21, wherein the electrical connector is a serial port through which the microphone electric audio output signal is output.

8. (Cancelled)

9. (Previously Presented) The method of claim 1, wherein the microphone electric audio test signal represents a single tone signal.

10. (Previously Presented) The method of claim 1, wherein the microphone electric audio test signal represents a multitone signal.

11. (Cancelled)

12. (Previously Presented) The method of claim 1, wherein the mobile voice-enabled communications device comprises an RF transceiver connected to the microprocessor and wherein the mobile voice-enabled communications device is enabled for two-way wireless data communications.

13. (Previously Presented) The method of claim 1, wherein the software module configures the microprocessor to route signals from the auxiliary input/output device to the speaker, the method further comprising:

producing a speaker electric audio test signal on the audio generator external to the mobile voice-enabled communications device;

receiving the speaker electric audio test signal as input to the auxiliary input/output device from the audio generator;

directly routing the speaker electric audio test signal from the auxiliary input/output device to the speaker using the microprocessor;

outputting from the speaker a speaker acoustic audio output signal corresponding to the speaker electric audio test signal;

providing the speaker acoustic audio output signal from the speaker as input to an external microphone;

outputting a speaker electric audio output signal corresponding to the speaker acoustic audio output signal from the external microphone to the external test system; and

analyzing the speaker electric audio output signal output from the external microphone on the external test system.

14. (Previously Presented) A method of testing audio performance, the method comprising:

providing a mobile voice-enabled communications device, the device comprising a microprocessor, a microphone connected to the microprocessor, a speaker connected to the microprocessor, an auxiliary input/output device connected to the microprocessor, a memory connected to the microprocessor, and a software module stored in the memory which configures the microprocessor to route signals from the auxiliary input/output device to the speaker;

producing a speaker electric audio test signal on an audio generator external to the mobile voice-enabled communications device;

providing the speaker electric audio test signal as input to the auxiliary input/output device from the audio generator;

directly routing the speaker electric audio test signal using the microprocessor of the mobile voice-enabled communications device from the auxiliary input/output device to the speaker;

outputting from the speaker a speaker acoustic audio output signal corresponding to the speaker test electric audio signal;

providing the speaker acoustic audio output signal from the speaker as an input to an external microphone;

outputting a speaker electric audio output signal corresponding to the speaker acoustic audio output signal from the external microphone to an external test system; and

analyzing the speaker electric audio output signal output from the external microphone on the external test system.

15. (Previously Presented) The method of claim 14, wherein the speaker electric audio output signal is compared to the speaker electric audio test signal.

16. (Previously Presented) The method of claim 14, wherein at least one signal characteristic of the speaker electric audio output signal is compared to a predefined

test limit.

17. (Previously Presented) The method of claim 14, wherein a plurality of characteristics of the speaker electric audio output signal are compared to predefined test limits for a plurality of audio signal characteristics selected from the group including signal amplitude, frequency response and harmonic distortion.

18. (Previously Presented) The method of claim 22, wherein the electrical connector is a headset plug to which the speaker electrical audio test signal is provided.

19. (Previously Presented) The method of claim 22, wherein the electrical connector is a serial port to which the speaker electric audio test signal is provided.

20. (Cancelled)

21. (Previously Presented) The method of claim 1, wherein the auxiliary input/output device is an electrical connector.

22. (Previously Presented) The method of claim 14, wherein the auxiliary input/output device is an electrical connector.

23. (Previously Presented) A system for testing the audio performance of acoustic devices, the system comprising:

an external speaker for receiving a microphone electric audio test signal as input and outputting a microphone acoustic audio test signal representation thereof; and

a mobile voice-enabled communications device, the device comprising a microprocessor, a microphone connected to the microprocessor, a speaker connected to the microprocessor, an auxiliary input/output device connected to the microprocessor, a memory connected to the microprocessor, and a software module stored in the memory which configures the microprocessor to route signals from the microphone to the auxiliary input/output device;

the microphone being configured to receive the microphone acoustic audio

test signal output from the external speaker as input and output a microphone electric audio output signal corresponding to the microphone acoustic audio test signal;

the microprocessor under instruction of the software module being configured to:

receive a microphone electric audio output signal from the microphone;
and

directly route the microphone electric audio output signal to the auxiliary input/output device for output therefrom to an external test system for analysis.

24. (Previously Presented) The system of claim 23, wherein the auxiliary input/output device is an electrical connector.

25. (Previously Presented) The system of claim 23, wherein the electrical connector is a headset plug.

26. (Previously Presented) The system of claim 23, wherein the electrical connector is a serial port.

27. (Cancelled)

28. (Previously Presented) The system of claim 23, wherein the mobile voice-enabled communications device comprises an RF transceiver connected to the microprocessor and wherein the mobile voice-enabled communications device is enabled for two-way wireless data communications.

29. (Previously Presented) The system of claim 23, further comprising:

an audio generator coupled to the external speaker for producing the microphone electric audio test signal and providing the microphone electric audio test signal to the external speaker; and

wherein the external test system is an audio analyzer coupled to the auxiliary input/output device for receiving and analyzing the microphone electric audio output signal.

30. (Currently Amended) The system of claim 23, wherein the software module configures the microprocessor to route signals from the auxiliary input/output device to the speaker, the system further comprising:

an external microphone;

wherein the microprocessor under instruction of the software module is configured to:

receive a[[n]] speaker electric audio test signal via the auxiliary input/output device; and

directly route the speaker electric audio test signal from the auxiliary input/output device to the speaker;

wherein the speaker is configured to receive the speaker electric audio test signal and output a speaker acoustic audio output signal representation of the speaker electric audio test signal; and

wherein the external microphone is configured to receive the speaker acoustic audio output signal as input and output a speaker electric audio output signal representation thereof for analysis on the external test system.

31. (Currently Amended) A system for testing the audio performance of acoustic devices, the system comprising:

an external microphone;

a mobile voice-enabled communications device, the device comprising a microprocessor, a microphone connected to the microprocessor, a speaker connected to the microprocessor, an auxiliary input/output device connected to the microprocessor, a memory connected to the microprocessor, and a software module

stored in the memory which configures the microprocessor to route signals from the auxiliary input/output device to the speaker;

wherein the microprocessor under instruction of the software module is configured to:

receive a[[n]] speaker electric audio test signal via the auxiliary input/output device; and

directly route the speaker electric audio test signal from the auxiliary input/output device to the speaker; and

wherein the speaker is configured to receive the speaker electric audio test signal and output a speaker acoustic audio output signal representation of the speaker electric audio test signal; and

wherein the external microphone is configured to receive the speaker acoustic audio output signal as input and output a speaker electric audio output signal representation thereof for analysis on an external test system.

32. (Previously Presented) The system of claim 31, wherein the auxiliary input/output device is an electrical connector.

33. (Previously Presented) The system of claim 32, wherein the electrical connector is a headset plug.

34. (Previously Presented) The system of claim 32, wherein the electrical connector is a serial port.

35. (Cancelled)

36. (Previously Presented) The system of claim 31, wherein the mobile voice-enabled communications device comprises an RF transceiver connected to the microprocessor and wherein the mobile voice-enabled communications device is enabled for two-way wireless data communications.

37. (Previously Presented) The system of claim 31, further comprising:

an audio generator coupled to the auxiliary input/output device for producing the speaker electric audio test signal and providing the speaker electric audio test signal to the auxiliary input/output device; and

wherein the external test system is an audio analyzer coupled to the external microphone for receiving and analyzing the speaker electric audio output signal.